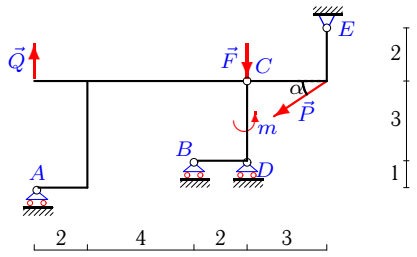
# Составная конструкция 3 тел

Определить реакции опор конструкции (в кН), состоящей из трех тел, соединенных в точке $C$ шарниром. Размеры указаны в метрах.

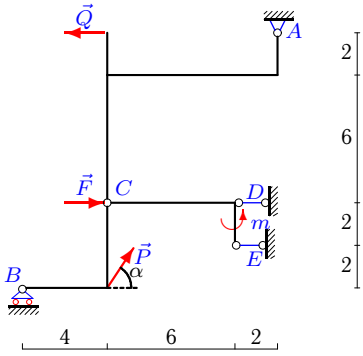
*Кирсанов М.Н.* **Решебник. Теоретическая механика**/Под ред. А. И. Кириллова.– М.:ФИЗМАТЛИТ, 2008.– 384 с. (с.67.)

**Задача 16.1.** 5



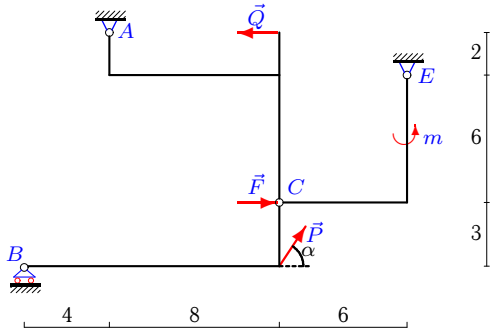

$P = 8$ кН, $Q = 2$ кН, $F = 4$ кН, $m = 3$ кНм, $\alpha = 30°$.

**Задача 16.2.** 5



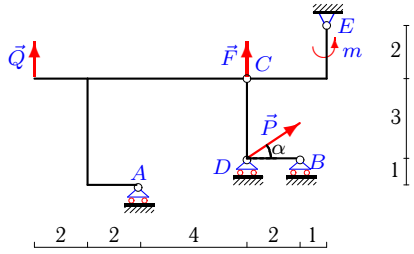

$P = 5$ кН, $Q = 3$ кН, $F = 7$ кН, $m = 5$ кНм, $\alpha = 60°$.

**Задача 16.3.** 5



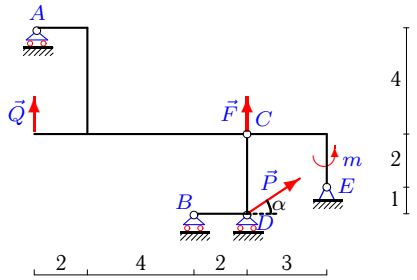

$P = 9$ кН, $Q = 9$ кН, $F = 2$ кН, $m = 3$ кНм, $\alpha = 60°$.

**Задача 16.4.** 5



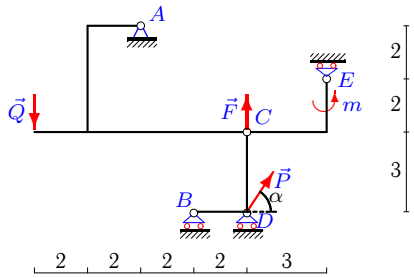

$P = 6$ кН, $Q = 1$ кН, $F = 4$ кН, $m = 4$ кНм, $\alpha = 30°$.

**Задача 16.5.** 5



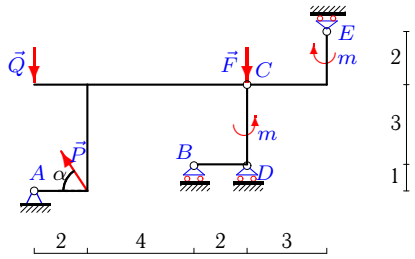

$P = 5$ кН, $Q = 7$ кН, $F = 4$ кН, $m = 5$ кНм, $\alpha = 30°$.

**Задача 16.6.** 5



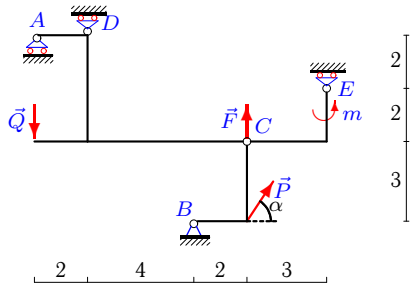

$P = 4$ кН, $Q = 9$ кН, $F = 9$ кН, $m = 3$ кНм, $\alpha = 60°$.

## Задача 16.7.



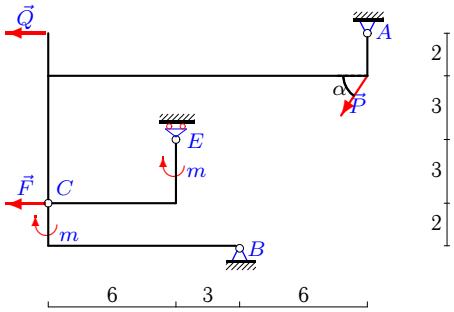

$P = 7$ кН, $Q = 8$ кН, $F = 9$ кН,
$m = 3$ кНм, $\alpha = 60°$.

## Задача 16.8.



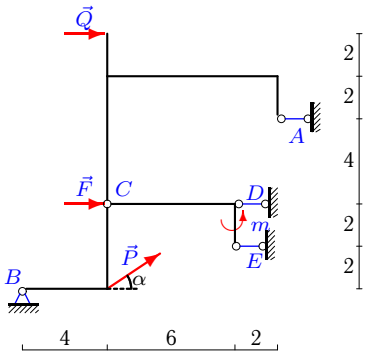

$P = 8$ кН, $Q = 9$ кН, $F = 8$ кН,
$m = 3$ кНм, $\alpha = 60°$.

## Задача 16.9.



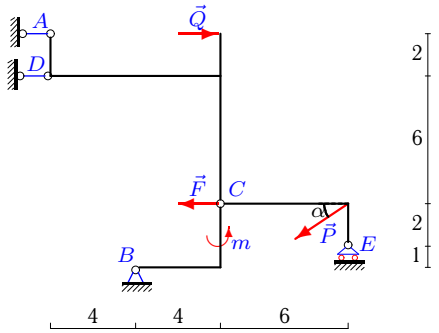

$P = 6$ кН, $Q = 8$ кН, $F = 3$ кН,
$m = 4$ кНм, $\alpha = 60°$.

## Задача 16.10.



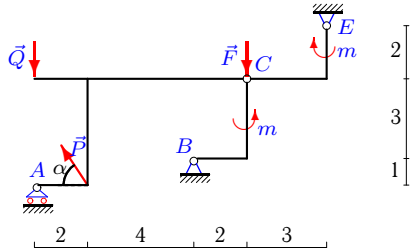

$P = 1$ кН, $Q = 1$ кН, $F = 5$ кН,
$m = 5$ кНм, $\alpha = 30°$.

## Задача 16.11.



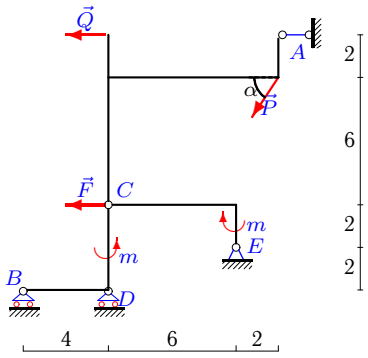

$P = 7$ кН, $Q = 4$ кН, $F = 8$ кН,
$m = 5$ кНм, $\alpha = 30°$.

## Задача 16.12.



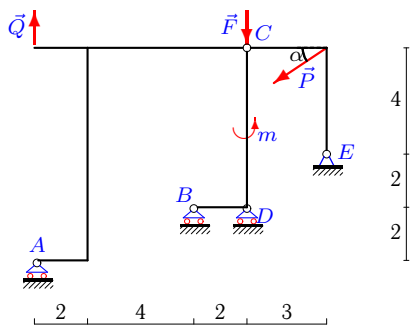

$P = 8$ кН, $Q = 7$ кН, $F = 1$ кН,
$m = 3$ кНм, $\alpha = 60°$.

## Задача 16.13.



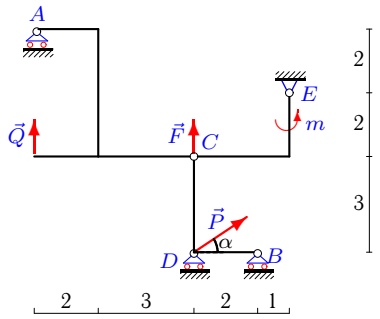

$P = 4$ кН, $Q = 9$ кН, $F = 4$ кН,
$m = 5$ кНм, $\alpha = 60°$.

## Задача 16.14.



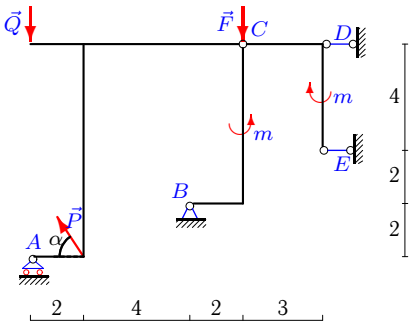

$P = 9$ кН, $Q = 3$ кН, $F = 4$ кН,
$m = 5$ кНм, $\alpha = 30°$.

## Задача 16.15.



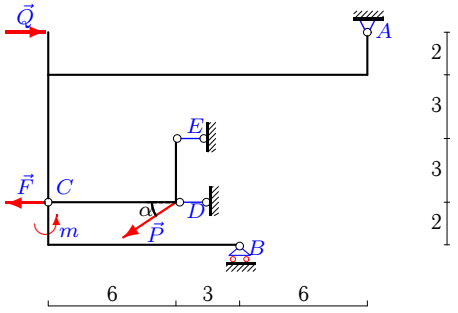

$P = 1$ кН, $Q = 7$ кН, $F = 4$ кН,
$m = 4$ кНм, $\alpha = 30°$.

## Задача 16.16.



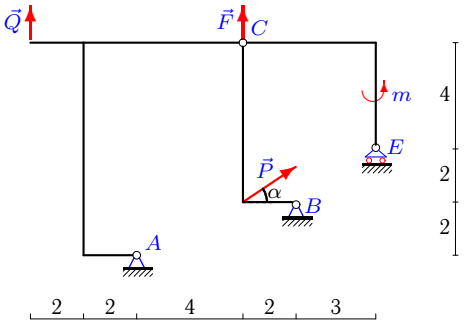

$P = 3$ кН, $Q = 5$ кН, $F = 5$ кН,
$m = 5$ кНм, $\alpha = 60°$.

## Задача 16.17.



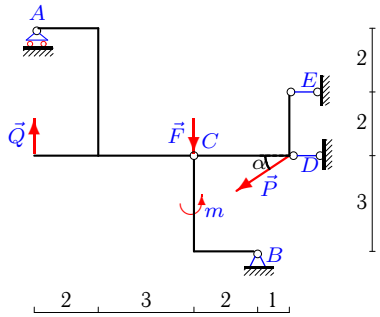

$P = 3$ кН, $Q = 8$ кН, $F = 7$ кН,
$m = 4$ кНм, $\alpha = 30°$.

## Задача 16.18.



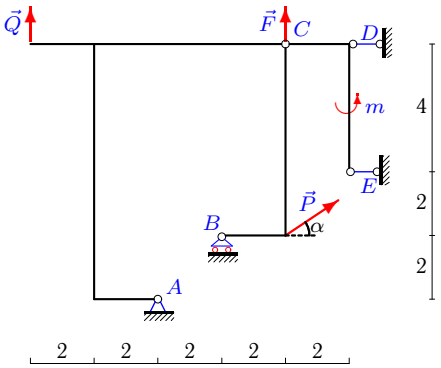

$P = 3$ кН, $Q = 6$ кН, $F = 3$ кН,
$m = 6$ кНм, $\alpha = 30°$.

## Задача 16.19.



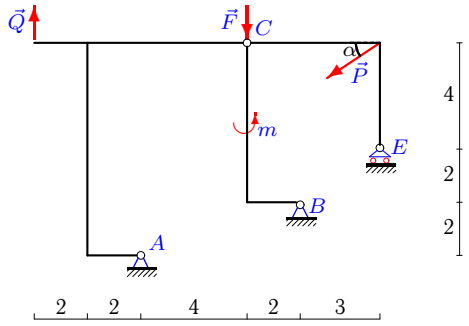

$P = 8$ кН, $Q = 4$ кН, $F = 5$ кН,
$m = 4$ кНм, $\alpha = 30°$.

## Задача 16.20.



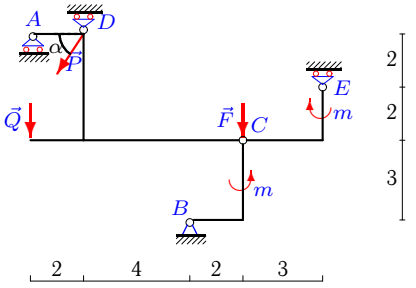

$P = 5$ кН, $Q = 2$ кН, $F = 7$ кН,
$m = 5$ кНм, $\alpha = 30°$.

## Задача 16.21.



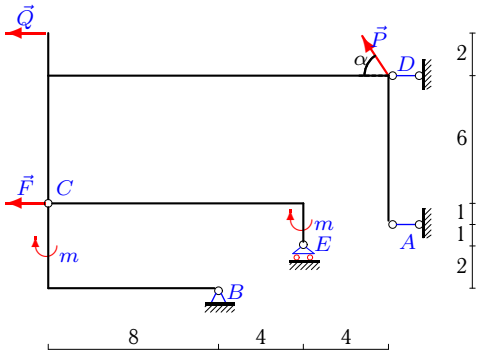

$P = 4$ кН, $Q = 5$ кН, $F = 3$ кН,
$m = 6$ кНм, $\alpha = 30°$.

## Задача 16.22.



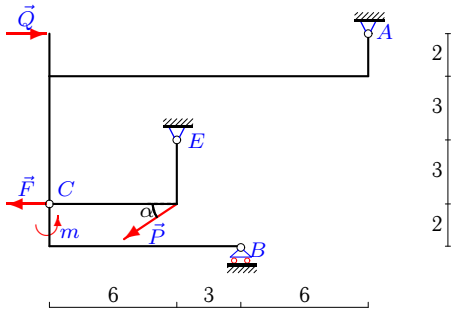

$P = 9$ кН, $Q = 9$ кН, $F = 8$ кН,
$m = 3$ кНм, $\alpha = 60°$.

## Задача 16.23.



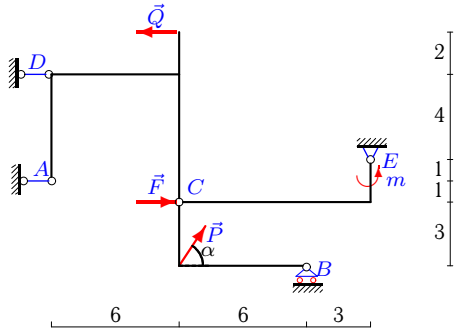

$P = 7$ кН, $Q = 3$ кН, $F = 8$ кН,
$m = 6$ кНм, $\alpha = 60°$.

## Задача 16.24.



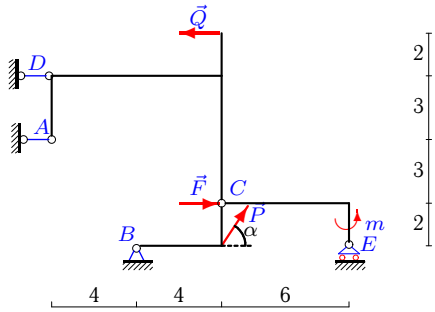

$P = 3$ кН, $Q = 2$ кН, $F = 2$ кН,
$m = 4$ кНм, $\alpha = 30°$.

## Задача 16.25.



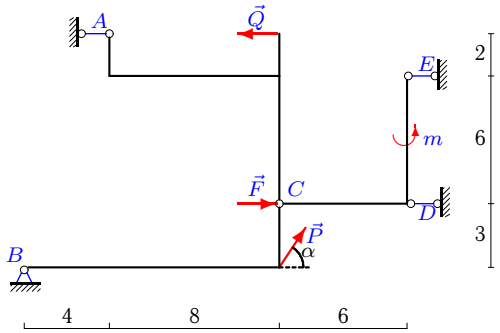

$P = 7$ кН, $Q = 9$ кН, $F = 6$ кН,
$m = 4$ кНм, $\alpha = 60°$.

## Задача 16.26.



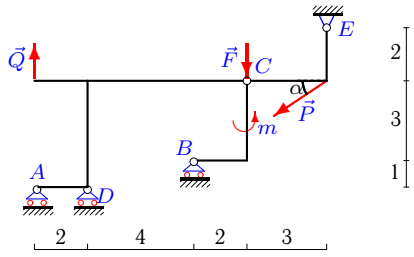

$P = 4$ кН, $Q = 2$ кН, $F = 8$ кН,
$m = 5$ кНм, $\alpha = 60°$.

## Задача 16.27.



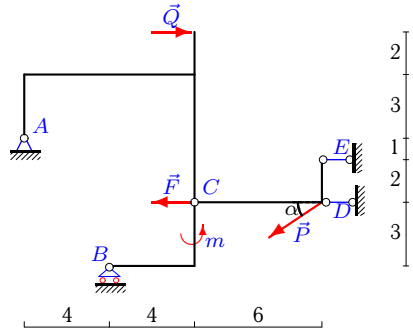

$P = 3$ кН, $Q = 9$ кН, $F = 5$ кН,
$m = 3$ кНм, $\alpha = 60°$.

## Задача 16.28.



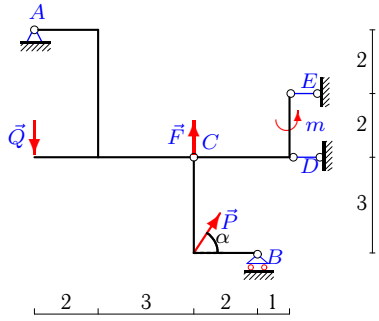

$P = 3$ кН, $Q = 1$ кН, $F = 6$ кН,
$m = 3$ кНм, $\alpha = 30°$.

## Задача 16.29.




$P = 1$ кН, $Q = 6$ кН, $F = 7$ кН,
$m = 3$ кНм, $\alpha = 30°$.

## Задача 16.30.




$P = 1$ кН, $Q = 2$ кН, $F = 7$ кН,
$m = 4$ кНм, $\alpha = 60°$.

16.5

# Составная конструкция 3 тел

| № | $X_A$ | $Y_A$ | $X_B$ | $Y_B$ | $X_E$ | $Y_E$ | $X_D$ | $Y_D$ |
|---|---|---|---|---|---|---|---|---|
| 1 | – | −2.000 | – | 1.500 | 6.928 | 8.618 | – | −2.118 |
| 2 | −3.830 | −6.830 | – | 2.500 | −2.500 | – | −0.169 | – |
| 3 | 9.959 | −0.959 | – | 1.125 | −7.459 | −7.959 | – | – |
| 4 | – | −2.000 | – | −7.794 | −5.196 | −4.797 | – | 6.591 |
| 5 | – | −7.000 | – | 6.495 | −4.330 | 1.220 | – | −14.215 |
| 6 | −2.000 | 20.000 | – | 3.000 | – | −1.000 | – | −25.464 |
| 7 | 3.500 | 3.453 | – | 1.500 | – | 1.000 | – | 4.984 |
| 8 | – | 50.784 | −4.000 | 0.000 | – | −1.000 | – | −55.712 |
| 9 | 9.882 | 5.000 | 4.117 | −0.470 | – | 0.666 | – | – |
| 10 | −2.000 | – | −1.366 | −0.500 | −2.500 | – | −1.000 | – |
| 11 | −51.186 | – | −1.666 | 0.000 | – | 3.500 | 62.915 | – |
| 12 | – | −0.196 | −4.678 | −5.517 | 8.678 | 6.785 | – | – |
| 13 | 7.035 | – | – | 1.250 | 7.964 | −1.821 | – | 4.035 |
| 14 | – | −3.000 | – | 2.500 | 7.794 | −5.892 | – | 11.892 |
| 15 | – | −7.000 | – | −1.299 | −0.866 | −1.910 | – | −1.290 |
| 16 | – | 1.551 | 1.116 | 5.850 | 1.250 | – | −0.866 | – |
| 17 | −4.354 | 1.944 | – | −0.444 | −3.000 | – | 8.952 | – |
| 18 | 0.540 | −10.920 | −3.138 | 1.620 | – | −1.200 | – | – |
| 19 | – | −4.000 | −7.333 | 9.000 | −6.000 | – | 20.261 | – |
| 20 | −10.245 | −24.490 | – | 12.990 | −1.250 | – | 7.165 | – |
| 21 | 4.278 | −1.443 | −0.814 | −0.556 | – | 2.000 | – | – |
| 22 | – | 21.750 | 4.500 | 8.250 | – | 1.000 | – | −6.205 |
| 23 | −20.391 | – | 14.624 | −6.562 | – | 0.500 | 20.267 | – |
| 24 | −57.637 | −29.673 | – | −0.444 | 60.235 | 31.617 | – | – |
| 25 | 5.885 | – | – | −1.750 | −17.404 | −4.312 | 11.019 | – |
| 26 | −6.810 | – | −7.261 | −2.630 | – | −0.833 | 6.071 | – |
| 27 | 9.000 | – | −11.892 | −2.598 | 0.500 | – | 4.892 | – |
| 28 | – | −9.303 | – | 1.500 | 2.598 | 3.232 | – | 11.071 |
| 29 | −15.333 | −0.250 | – | 0.750 | −1.500 | – | 18.699 | – |
| 30 | 8.895 | −5.116 | – | −0.750 | 2.000 | – | −11.395 | – |